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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,877	09/27/2000	KAZUO ICHIKAWA	107469	7376

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EXAMINER	
ZERVIGON, RUDY	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/670,877	ICHIKAWA ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5 and 6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5 and 6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 30 , 2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,2,5, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Xu; Ge et al. (US 6892669 B2). Xu teaches a CVD system (Figure 1; column 6, lines 1-36) provided with a plasma generator (20+14+22; Figure 1; column 6, lines 8-24) comprised of a conductive upper (20; Figure 1; column 6, lines 1-36) and lower (14; Figure 1; column 6, lines 1-36) plates and a circumferential wall (22; Figure 1; column 6, lines 37-65) made of an insulator, having a plasma generation chamber (between 14 and 20; Figure 1) separated from a film deposition chamber (12; Figure 1; column 6, lines 8-24) in which a substrate (11; Figure 1; column 6, lines 1-10) is arranged, wherein a material gas (28; Figure 1; column 6, lines 60-67) is directly supplied into the film deposition chamber (12; Figure 1; column 6, lines 8-24), radicals (column 11; lines 5-

11) in the plasma are introduced into the film deposition chamber (12; Figure 1; column 6, lines 8-24) from the plasma generator (20+14+22; Figure 1; column 6, lines 8-24) via through holes (26; Figure 1; column 7, lines 1-15) of said lower (14; Figure 1; column 6, lines 1-36) plate that are distributed across said lower (14; Figure 1; column 6, lines 1-36) plate, and a thin film is deposited on the substrate (11; Figure 1; column 6, lines 1-10), said CVD system (Figure 1; column 6, lines 1-36) further comprising: a cleaning gas ("Oxygen gas"; Figure 1) feeder (23; Figure 1; column 6, lines 60-67) provided to said plasma generator (20+14+22; Figure 1; column 6, lines 8-24), said lower (14; Figure 1; column 6, lines 1-36) plate is connected to ground (via 30, 41, 43; Figure 1), and each of said through holes (26; Figure 1; column 7, lines 1-15) of said lower (14; Figure 1; column 6, lines 1-36) plate is designed to pass the radicals (column 11; lines 5-11) only to the film deposition chamber (12; Figure 1; column 6, lines 8-24), said lower (14; Figure 1; column 6, lines 1-36) plate further including a plurality of diffusion holes (24; Figure 1; column 7, lines 1-15) that are distributed across said lower (14; Figure 1; column 6, lines 1-36) plate and interspersed with said through holes (26; Figure 1; column 7, lines 1-15) whereby a surface area of said lower (14; Figure 1; column 6, lines 1-36) plate includes an interspersed distribution of both diffusion holes (24; Figure 1; column 7, lines 1-15) and through holes (26; Figure 1; column 7, lines 1-15) and said material gas (28; Figure 1; column 6, lines 60-67) is directly supplied into the film deposition chamber (12; Figure 1; column 6, lines 8-24) through said plurality of diffusion holes (24; Figure 1; column 7, lines 1-15) to react with said radicals (column 11; lines 5-11) supplied through said through holes (26; Figure 1; column 7, lines 1-15) in the film deposition chamber (12; Figure 1; column 6, lines 8-24), wherein a cleaning gas ("Oxygen gas"; Figure 1) is introduced through said cleaning gas ("Oxygen gas"; Figure 1)

feeder (23; Figure 1; column 6, lines 60-67) to produce plasma in the plasma generator (20+14+22; Figure 1; column 6, lines 8-24) and generate radicals (column 11; lines 5-11), and the radicals (column 11; lines 5-11) are introduced through said through holes (26; Figure 1; column 7, lines 1-15) to said film deposition chamber (12; Figure 1; column 6, lines 8-24) to strike the substrate (11; Figure 1; column 6, lines 1-10) and thereby clean the substrate (11; Figure 1; column 6, lines 1-10) and further the film is deposited on the substrate (11; Figure 1; column 6, lines 1-10) within the same chamber as the substrate (11; Figure 1; column 6, lines 1-10) is not moved.

Xu further teaches:

i. A CVD system (Figure 1; column 6, lines 1-36) as set forth in claim 1 , wherein said cleaning gas ("Oxygen gas"; Figure 1) is a gas selected from O2, H2, F2, N2, dilute gas, and halide gas or a gas comprised of a suitable mixture of the plural gases, as claimed by claim 2

ii. A CVD system (Figure 1; column 6, lines 1-36) provided with a plasma generator (20+14+22; Figure 1; column 6, lines 8-24) comprised of a conductive upper (20; Figure 1; column 6, lines 1-36) and lower (14; Figure 1; column 6, lines 1-36) plates and a circumferential wall (22; Figure 1; column 6, lines 37-65) made of an insulator, having a plasma generation chamber (between 14 and 20; Figure 1) separated from a film deposition chamber (12; Figure 1; column 6, lines 8-24) in which a substrate (11; Figure 1; column 6, lines 1-10) is arranged, wherein a material gas (28; Figure 1; column 6, lines 60-67) is directly supplied into the film deposition chamber (12; Figure 1; column 6, lines 8-24), radicals (column 11; lines 5-11) in the plasma are introduced into the film

deposition chamber (12; Figure 1; column 6, lines 8-24) from the plasma generator (20+14+22; Figure 1; column 6, lines 8-24) via through holes (26; Figure 1; column 7, lines 1-15) that are distributed across each of said lower (14; Figure 1; column 6, lines 1-36) plates, and a thin film is deposited on the substrate (11; Figure 1; column 6, lines 1-10), said CVD system (Figure 1; column 6, lines 1-36) further comprising: a cleaning gas ("Oxygen gas"; Figure 1) feeder (23; Figure 1; column 6, lines 60-67) provided to said plasma generator (20+14+22; Figure 1; column 6, lines 8-24), and a diameter of each of said through holes (26; Figure 1; column 7, lines 1-15) of said lower (14; Figure 1; column 6, lines 1-36) plate is designed to pass the radicals (column 11; lines 5-11) only to the film deposition chamber (12; Figure 1; column 6, lines 8-24), said lower (14; Figure 1; column 6, lines 1-36) plate further including a plurality of diffusion holes (24; Figure 1; column 7, lines 1-15) that are distributed across each of said lower (14; Figure 1; column 6, lines 1-36) plates and interspersed with said through holes (26; Figure 1; column 7, lines 1-15) whereby a surface area of said lower (14; Figure 1; column 6, lines 1-36) plates includes an interspersed distribution of both diffusion holes (24; Figure 1; column 7, lines 1-15) and through holes (26; Figure 1; column 7, lines 1-15) and said material gas (28; Figure 1; column 6, lines 60-67) is directly supplied into the film deposition chamber (12; Figure 1; column 6, lines 8-24) though said plurality of diffusion holes (24; Figure 1; column 7, lines 1-15) to react with said radicals (column 11; lines 5-11) supplied though said through holes (26; Figure 1; column 7, lines 1-15) in the deposition chamber (16; Figure 1; column 6, lines 1-37), wherein a cleaning gas ("Oxygen gas"; Figure 1) is introduced through said cleaning gas ("Oxygen gas"; Figure

1) feeder (23; Figure 1; column 6, lines 60-67) to produce plasma in the plasma generator (20+14+22; Figure 1; column 6, lines 8-24) and generate radicals (column 11; lines 5-11), and the radicals (column 11; lines 5-11) are introduced through said through holes (26; Figure 1; column 7, lines 1-15) to said film deposition chamber (12; Figure 1; column 6, lines 8-24) to strike the substrate (11; Figure 1; column 6, lines 1-10) and thereby clean the substrate (11; Figure 1; column 6, lines 1-10) and further the film is deposited on the substrate (11; Figure 1; column 6, lines 1-10) within the same chamber as the substrate (11; Figure 1; column 6, lines 1-10) is not moved, as claimed by claim 5

iii. A CVD system (Figure 1; column 6, lines 1-36) as set forth in claim 1, wherein said cleaning gas ("Oxygen gas"; Figure 1) is a gas selected from the group consisting of O2, H2, F2, N2, dilute gas, halide gas, and mixtures thereof, as claimed by 6

Response to Arguments

4. Applicant's arguments with respect to claims 1, 2, 5, and 6 have been considered but are moot in view of the new grounds of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272-1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (571) 273-8300. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner

can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.

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